Akerlof: market for second-hand cars

Quality	*A*	*B*	*C*	*D*	*E*	*F*	
Number of cars	10	20	10	40	30	10	Total: 120
fraction	$p_A = \frac{10}{120} = \frac{1}{12}$	$p_B = \frac{2}{12}$	$p_C = \frac{1}{12}$	$p_D = \frac{4}{12}$	$p_E = \frac{3}{12}$	$p_F = \frac{1}{12}$	
Buyer's value	\$6,000	\$5,000	\$4,000	\$3,000	\$2,000	\$1,000	
Seller's value	\$5,400	\$4,500	\$3,600	\$2,700	\$1,800	\$900	

Quality	L	M	H
probability	$\frac{1}{6}$	$\frac{2}{3}$	$\frac{1}{6}$
seller's value	900	$1,200$	$1,400$
buyer's value	$1,020$	$1,320$	$1,500$

For every price p determine if there is a second-hand market.

MONOPOLY and BUNDLING

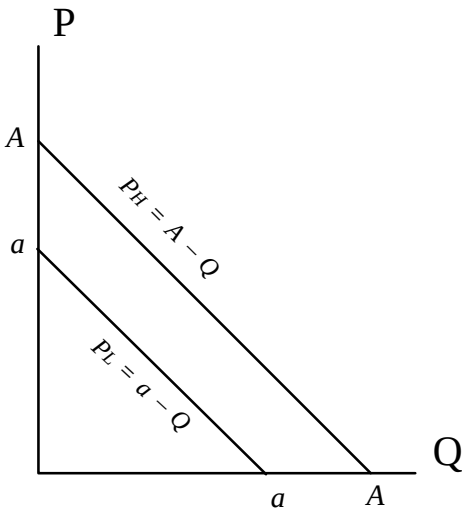
A. ONE TYPE of customer

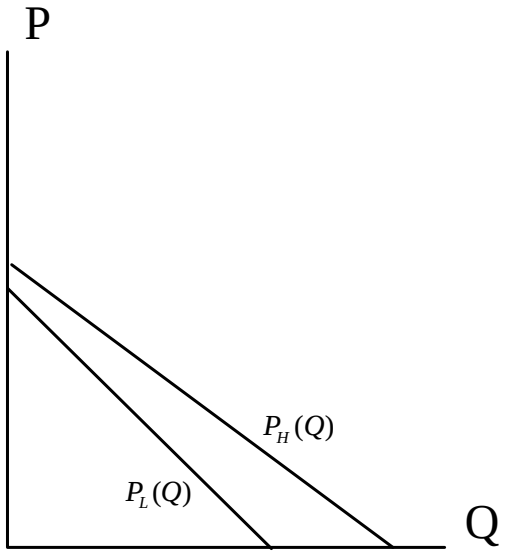
All consumers are identical with the same inverse demand function $P = P(Q)$. Monopolist's cost function: $C = cQ$ with $0 < c < P(0)$.

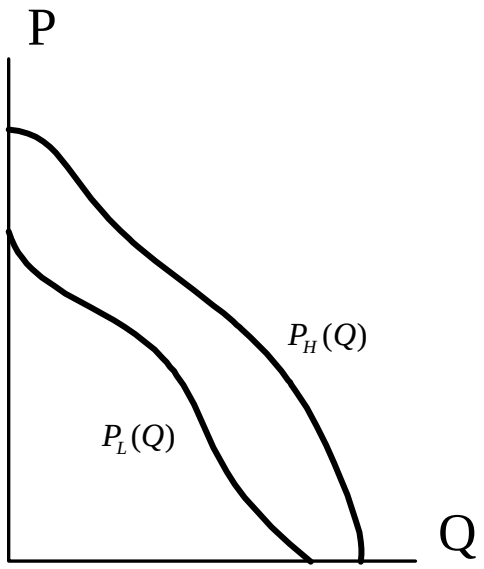
Naïve theory: $\pi(Q) = R(Q) - cQ = QP(Q) - cQ$

Bundling.

B. TWO TYPES of customers







Monopolist's cost function: $C = cQ$ with $0 < c < P_L(0)$.

BUNDLING continued

OPTION 1. Offer only one type of package (Q,V) which will be bought only by type H, because $V > W_L(Q)$ but $V \leq W_H(Q)$.

It can be seen as included in Option 3:

Sufficient condition for Option 3 (two contracts) to be better than Option 1

OPTION 2: Offer only one package (Q,V) which will be bought by both types, because $V \leq W_L(Q)$ (which implies that $V \leq W_H(Q)$ since $W_L(Q) \leq W_H(Q)$).

Option 2 is always inferior to Option 3: